

## **BIP Circularity of Polymers**

### **General learning outcomes**

The student who has completed the course:

- possesses basic knowledge about the hazards of neglecting the plastic recycling process as well as solid knowledge of the complexity of various polymer waste types/mixes,
- can relate the chemical structure of polymers to its circularity potential,
- has basic knowledge about the recycling method of plastics and polymers applied in the project.
- can plan and conduct simple laboratory experiments to determine the processes of recycling polymeric materials.
- can assess the effectiveness of the applied process for a specific polymeric material.
- can identify potential hazards associated with neglecting the recycling of a specific polymeric material (used in the project).
- understands the thermodynamic limitations of recycling and can explain the tension between market demands (i.e. technical performance and/or aesthetics) and circular design,
- can map material flows in a value chain,
- knows the state-of-the-art in mechanical recycling of polymers,
- knows the state-of-the-art in (thermo)chemical recycling of both polyolefin-type materials and of heteropolymers,